352 [513] wooden sticks for fire-drilling, toilet articles, magic rattles etc. Contrary to the Chiriguano, the Choroti do not use bedsteads or hammocks, but sleep on the ground, with only an animal skin, or a woollen mantle between themselves and the ground.

[142 29]

Fig. 19. A man, with his daughters. Choroti. From the dry soil forest region between Caiza and Crevaux. Gran Chaco. Bolivia. Photo. E. v. R.

● 343 251 At the cooking-fires in front of the huts, the Choroti now and then erect square sheds, with flat, grass-covered roofs. These sheds are constructed like food-storing racks (fig. 28), and are used both as a protection from the sun and as sleeping places during hot nights According to Nordenskiöld, the Indians on the Pilcomayo use the roofs of these sheds for drying fish on.[1] I am of opinion that these sheds, originally, were only designed for the storing, drying, smoking or roasting of fish, and that, therefore, their use as shade-givers or sleeping-shelters is only

[1] Nordenskiöld (13), p. 36.

[text continues on p. 47]

1: Rosen E-5 (1901-1902) 1924 SK6 Choroti SK6

Fig. 27. Wooden digging-stick (wood of Bulnesia sarmienti). The handle and the spade-like point are flat, the rest, of round section. Choroti, Gran Chaco, Bolivia. 1/5. Riksm. no. 3 84.

a secondary one.[1] In Central Africa I have seen Wemba and Bisa men construct food-storing racks for smoking food, or drying it by fire. These racks are built on exactly the same plan as the cooking-sheds of the Choroti, although lower than the latter, and not covered with grass. That also the Indians of South America made use of drying or roasting racks, is evident from fig. 29, provided that this picture, reproduced from an account of travel in the 16th century,[2] actually is a faithful representation of an Indian roasting-rack.

The roasting-rack, such as it is reproduced above, may conceivably be a development of the food-storing rack discussed by me in chapter VII (pp. 198, 199), and in the following way: Those usually fairly tall racks that are built for the protection of food against damage from wild or domestic animals, are, as a rule, particularly well adapted for drying fish, etc. When the weather is unfavourable to sun-drying, the idea would present itself of assisting the preserving process by making a fire under the rack, by means of which the food would dry more quickly, at the same time that, through the action of the smoke, it would keep longer from decomposition. By lessening the height of the rack, in the way shown in fig. 29, the effect of the fire would be increased so much that the food would quickly be cooked, and ready for immediate consumption.

Fig. 28. Frame of cooking shed; also used as a food rack. Choroti, Gran Chaco, Bolivia. From Erland Nordenskiöld.

When the Choroti quit a dwelling-site in order to build their village elsewhere, they often burn their old

[1] Cfr. my theory as to the origin of pile building construction, pp. 193 199.
[2] Schmidel (1), p. 29.

1: Rosen E-5 (1901-1902) 1924 SK6 Choroti SK6

had their dwellings far from any fishing water, I myself never saw these Indians engaging in fishing. As they had, however, brought with them their fishing gear (except the frameworks of their landing-nets), I succeeded in making a good collection of this kind of implement. 226

The Choroti fish with nets (using them as landing-nets), fish-hooks, and with bow and arrow. The last-mentioned fishing method, which, as far as I know, has only been observed by Moberg a Swede, is, however, only used during the latter part of the rainy season.[1]

The nets are either fastened so as to fill up the angle between two rigid poles, which are tied together by their lower ends (fig. 113), or between two supple rods, tied together at both ends (fig 114). The angle-set poles, and the rods, seem as a rule to be about 3 m in length. These fork poles and rods (dip-net frames) the Choroti had not troubled to bring with them to their dwelling site — far removed from any fishing water — in the neighbourhood of Tatarenda, and therefore my description of these implements is founded on two specimens preserved in the Gothenburg Museum, and on such photographs[2] and information as Nordenskiöld has kindly given me.[3]

When fishing, the Indians often split up into two parties, one of whom make a bar across the river with the nets that are stretched between poles (the barring-nets), which are then held so that the points of the fork rest on the bottom of the river. The other party of fishermen drives the fish towards the barring-nets, at the same time using their nets that are fixed between two rods (dip-nets) for catching fish.[4] These latter nets are used like large landing-nets, and, by means of the flexible rods, can be opened and closed. The Choroti have no water craft of any kind (not even rafts), but do their fishing swimming or wading. When fish is scarce, the Choroti block up the Pilcomayo with pole-built fences that, here and there, have openings in them. In front of these, the Indians sit on small platforms (figs. 114 and 115), and fish with dip-nets. When the weather is cold, or when fish is to be fried, fire is made on the platforms, which are isolated from the fire by means of a layer of river mud.[5] These 501 481] 343 226

[1] Nordenskiöld (11), pp. 60.
[2] Nordenskiöld (18), fig. 8, 11 ß, plate 14', and Karsten (9), the figure on p. 34.
[3] Letter dated 14. 7. 1921, Rockefeller collection of manuscripts, volume 1921, letter N.
[4] Nordenskiöld (18), p. 42.
[5] Nordenskiöld (18), p. 44.

1: Rosen E-5 (1901-1902) 1924 SK6 Choroti SK6
Ashluslay SK5

C
226
343

A
[226
227]

Fig. 113. Ashluslay fishermen with barring nets. Pilcomayo. Gran Chaco, Bolivia. Sketched from a photograph by Erl. Nordenskiöld.

C
481
226

little water platforms are constructed in about the same way as the food-storing platforms, or cooking sheds, that the Choroti build on dry ground (see p. 38). The only difference is that the two horizontally placed sticks that support the platform (the roof) in the latter, are resting in natural forks formed by the top ends of the uprights (see fig. 28), whilst the two sticks that support the platforms (the floor) of the river structures rest against bindings which have been tied round two uprights driven in close together. This arrangement almost certainly aims at the possibility of raising or lowering the platform in accordance with the level of the river water. In all other respects there is very great resemblance between the platforms that are built in rivers (fig. 115) and the cooking sheds built on dry land (fig. 28). In chapter VII I have tried to show how pile structures on firm ground have inspired the idea of building similar structures in water (see pp. 192—199 and 38—47).

The Choroti are so much at home in the water that they are able, whilst swimming below the surface, to catch fish with their dip-nets.

1: Rosen E-5 (1901-1902) 1924 SK6 Choroti SK6

226
343

Fig. 114. Pole-built fish fence across the Pilcomayo, with openings at intervals. On a platform in front of one of the openings a Choroti Indian is sitting, fishing with a dip-net. Gran Chaco, Bolivia. Sketched from a photograph by Erl. Nordenskiöld.

In figs. 116 and 117 is shown a bar net of caraguatá yarn. When I, by barter, acquired this net, for the reasons already given it was not mounted on its frame, but was kept rolled up, and with its mouth drawn together (see figure), in order to take up as little room as possible. The size of the net shows that it could be extended, in a triangular shape, between the arms — about 3 m long — of a fork (see fig. 113). The yarn of which the net is made is two-ply, and has a diameter of about 1.5 mm. The meshes are square, with sides of 4 cm.

227

In my collection there are also nets with meshes whose sides are, respectively, 2.6 and 1.6 cm. But the Choroti have probably nets with still smaller meshes, for I have in my collection a mesh-spacer which is only 1.1 cm wide.[1] Nets that are as small-meshed as this, are suitable for catching bait for fishing with hook and line.

Fig. 115. Detail sketch of a platform of the kind seen in fig. 114. From Erl. Nordenskiöld.

The largest mesh-spacer in my collection is very nearly 4 cm wide (fig. 118), and would therefore have been used for the weaving of nets

[1] Riksm. 03. 3. 241.

2: Nordenskiöld E-5 (1908-1909) 1919
SK6 Choroti SK6
Ashluslay SK5

III.

Dwelling-places.

The Chaco Indians here dealt with, the Choroti and the Ashluslay, live in round or longish, low, brush-wood huts, built of branches planted in the ground and covered with grass or twigs. The entrance is quite narrow and occasionally built out with a passage or porch as a shelter from the wind. This type of hut is well known from many books of travels describing the Chaco.[1] Besides these huts, one can see among these Indians four-cornered cooking-sheds[2], and among the Ashluslay some huts of a similar kind, which are used at carousals and to lodge strangers (men's houses).

The Chaco hut makes a proverty-stricken show, and one is astonished that tribes which can produce among other things, beautifully ornamented textile fabrics and very pretty knitted work, should not have hit upon the idea of building better huts; even when these Indians work for the season in the Argentine sugar factories, they erect these primitive huts.

This type of hut has a very wide-spread distribution in the Chaco. Besides among the tribes mentioned, we find the same among the Mataco, the Tapiete and a few of the Toba Indians. HUNT[3] says characteristically of the huts of the

[1]) See, e. g. v. ROSEN (1) Pl. 11, fig. 2, and NORDENSKIÖLD (8 B.), fig. 2 and Pl. 3.

[2]) NORDENSKIÖLD (8B), fig. 6.

[3]) p. 173.